Lighting, Switches and Outlets Procurement

Fixture selection, light distribution and color, driver/control compatibility, destination-market variants, mounting, service access and traceable quantities for project buyers.



Official George Group Foshan lighting display. The photograph shows fixture styles; it does not establish their photometry, electrical configuration or certification.

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The governing decision

Select the light, the equipment that powers and controls it, and the physical installation together. Then keep installed quantities, procurement extras and declared input watts on separate, traceable bases.

A fixture package has optical, electrical and physical interfaces

Decision	What changes the purchase
Light and use	The task, room, surfaces, distribution, glare and visual brief.
Color and appearance	Actual light spectrum/color behavior and material samples, not a color-temperature number alone.
Power and control	Destination supply, complete fixture input, driver output, light-source requirements and control pairing.
Market and environment	Exact electrical variant, applicable evidence and intended location.
Mounting and service	Opening/body, support, heat conditions, access and replaceable parts.
Quantities	Room counts, installed items, explicit total spares and physical order/receipt quantities.

This guide supports global project buyers, designers and procurement coordinators. It uses primary-source technical explanations and named external products, plus clearly assumed count/power examples. It does not design branch circuits, select cables/breakers, approve electrical installation or promise adequate room lighting from a lumen/area ratio.

NOVARMIA is a new brand within GEORGE Group. Group sources retain their own brand and context. A showroom, component certificate or external example does not establish certification or performance of an unrelated ordered fixture.

Contents

Section	Decision
01	Translate actual group records into a complete item schedule
02	Choose distribution, color, source and optical evidence
03	Match supply, driver, LED and control interfaces
04	Resolve market, location, mounting and maintenance
05	Calculate installed demand and declared input watts
06	Align quotations, revisions, receipts and editable records
Reference	Working terms, sources and image credits

Keep the assembly and count basis visible

A pendant can include replaceable lamps or integrated LEDs; a downlight may have a separate driver; a decorative switch plate may contain no dimming electronics. The ordered scope must identify each included component and its actual function.

Actual GEORGE lighting and switch records

Official source	Actual readable record	Not established by that record
GEORGE INT'L lighting [G01]	Decorative and architectural lighting, outdoor lights, lamps, mirror/reading lights, fans and switch/socket routes.	Current selected-model photometry, load, control pairing or destination certification.
George Light chandelier catalog [G02]	Named entries including HL10178-500 and HL9012-245.	Their individual electrical/model bodies were unavailable during this research.
George Light product catalog [G03]	1 Gang 1 Way switch titles with aluminum/stainless, plastic or tempered-glass appearance descriptions.	Voltage/current ratings, local switching function or dimming capability.
George Group Foshan [G04]	Official lighting display used on the cover.	The displayed fixtures are not a certified order configuration or audited inventory.

Catalog prices and result totals are not used as a quotation or verified available SKU count. The model strings identify readable public entries; their appearance or number suffixes do not reveal dimensions, lamp bases, driver outputs or testing.

Turn the selected look into a defined type

Assign an item-type ID and revision for each actual electrical/optical variant. Two identical-looking fixtures for different supplies or control systems need distinct definitions.

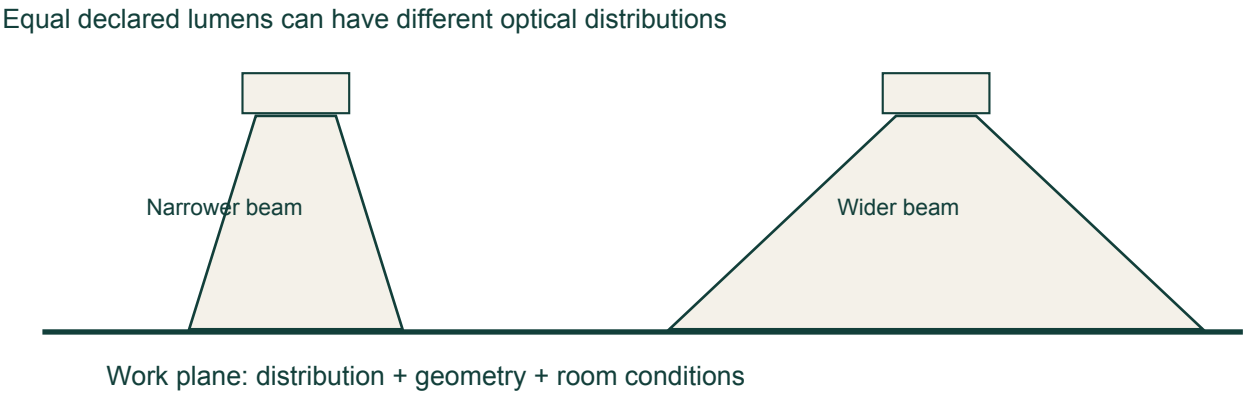
Choose the lighting role before choosing only the decorative shape

Alternative	Reason to select it	Tradeoff to close
Decorative pendant / chandelier	The visible object, scale and placement are central to the room.	Actual useful output, brightness in view, suspension/support, source replacement and cleaning access.
Recessed / surface luminaire	A selected optical and mounting system suits the ceiling and task.	Distribution, shielding, opening/body, support, heat and driver access.
Wall / reading / vanity light	The light needs to reach a specific surface, face or reading position.	Direction, position, shadows, switching and adjacent cabinetry/mirrors.
Track / linear system	The brief needs repeatable modules or adjustable/project-specific lines.	Track/connector/driver/control compatibility, actual lengths and complete mounting components.
Portable lamp	A movable source suits the room and furniture arrangement.	Destination plug/supply, cord routing, switch and actual stability/service documents.

Resolved choice

If a decorative fixture cannot provide the documented task lighting without uncomfortable brightness or shadows, retain it as a decorative layer and select a coordinated task source, or choose another documented fixture. More decorative lamps are not automatically the right remedy.

Lumens emitted by a luminaire are not task-plane illuminance



Illustrative source/distribution and task-plane relationship. The figure calculates no lux, uniformity or compliance result.

CIE defines illuminance in terms of luminous flux incident on a surface and expresses it in lux, equivalent to lumens per square meter. That does not mean total emitted fixture lumens divided by room floor area predicts the light incident at a desk, face or wall. [T02]

Record	Purchasing use
Complete luminaire output	Use the actual assembled product’s documented output rather than a bare LED chip figure.
Distribution / photometric file	Match the exact optic and configuration to the design calculation.
Location and mounting	Record actual position, height, orientation and intended task plane.
Room and review	Coordinate surfaces, obstructions, glare and the project’s lighting criteria.

Resolve equivalent-lumen offers

Two fixtures with similar lumens can place light differently. Select against the actual distribution/design review, then confirm the visual result in a representative sample or mock-up. The workbook contains no room-illuminance calculator.

CCT and CRI do not make two lights visually equivalent

DOE distinguishes light appearance from color rendering and explains that CCT condenses color information while CRI has limitations, including saturated-red assessment. Equal CCT or a shared CRI value is not a complete optical-quality specification. No DOE historical efficacy or lifetime range is adopted as an order promise. [T01]

Selection field	Decision
CCT / color appearance	Use the exact fixed or tunable selection; assess adjacent fixtures and finishes.
Color-rendering evidence	Record the required metric/report and sample behavior for the actual source.
Variation and matching	Agree the selected product’s color consistency and replacement/phase matching basis.
Optics and glare	Review beam/distribution and source visibility separately from color.

Resolved sample comparison

For a vanity or material display, compare the actual proposed lights on the relevant finishes and viewing positions. If the preferred CCT produces an unacceptable material appearance or the fixtures differ visibly, revise the actual source/variant or acceptance basis. A catalog photograph cannot settle the result.

Record the selected condition

Keep the sample source, fixture revision, control setting and viewing context with the decision. A different LED or optical variant is not covered merely by retaining the same housing color.

Replaceable lamps and integrated LEDs create different maintenance packages

Alternative	Reason to consider it	Tradeoff to close
Replaceable lamp	A specified lamp/base and supported replacement route suit the maintenance brief.	Exact source, supply, dimming, fit, heat/enclosure conditions and whether lamps are included.
Integrated LED with replaceable driver	The selected optical assembly and documented service access suit the project.	Actual LED/driver pairing, replacement part identity and permitted maintenance method.
Sealed / nonserviceable assembly	The actual product and replacement strategy fit its location and lifecycle brief.	Complete-unit replacement access, retained spares and agreed warranty/service conditions.

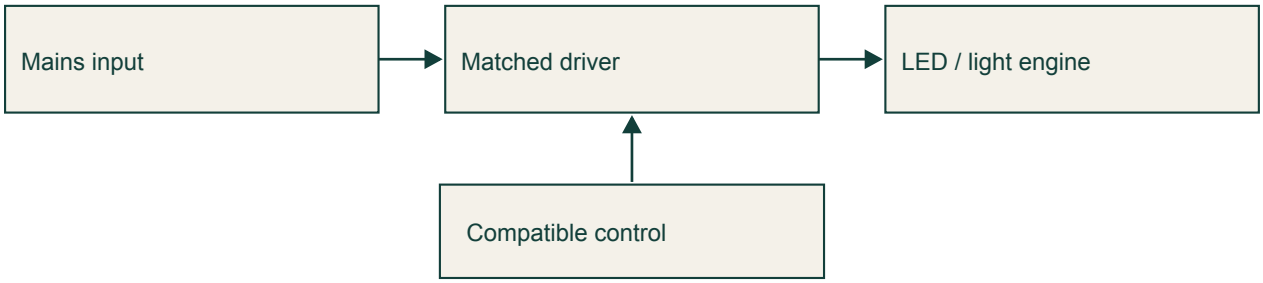
A removable lamp does not guarantee that every similarly based LED is suitable for the luminaire or control. An integrated source does not prove that the driver can be accessed or replaced without removing finished work. Obtain the actual product documents and service arrangement.

Resolve the maintenance tradeoff

For difficult-access locations, include the actual service procedure and replacement scope in the selection. The cheapest housing or the longest advertised LED life alone does not determine the lowest-maintenance assembly.

Keep mains input and LED output on opposite sides of the driver

Input voltage / frequency and driver output are different interfaces



Destination supply connects to the specified driver input; its output must match the selected LED load. The control interface is a separate pairing. This is not a wiring or circuit-design instruction.

Boundary	What to identify
Complete fixture input	Actual rated voltage/frequency, input watts and installation/connection requirements.
Driver input	The exact model/suffix and supply range/conditions.
Driver output	Operating mode, output voltage/current range and capacity under stated conditions.
LED load	Required electrical operating range, configuration and manufacturer pairing.
Control	Exact dimmer/controller, signal/interface and required behavior.

MEAN WELL’s HLG-60H specification dated February 4, 2025 separates input conditions from model-specific output and suffix functions. For example, HLG-60H-24 lists nominal 24 V DC output; its series power label describes output capability, not the actual mains input of a complete lighting assembly. [T05]

Resolve the voltage mismatch

If a proposed source requires a different output voltage or current mode from the selected driver, reject that pairing or obtain a documented matched alternative. Matching only the watt number does not resolve the interface.

Rated driver output is not the fixture’s connected input watts

The complete product’s declared input must be used for the procurement power schedule. Do not substitute LED-module watts, a driver’s maximum output capacity or an incandescent-equivalent marketing number. Keep the basis reference and whether the driver is included explicit.

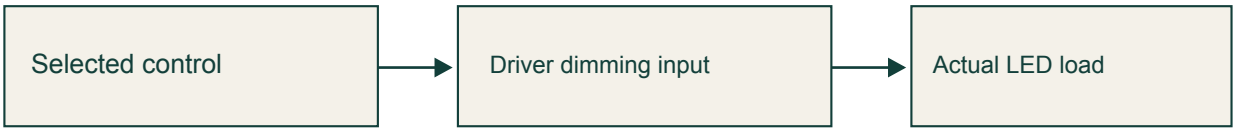
Offered figure	Correct interpretation
LED module / strip output-side W	Describes the selected load basis; it is not automatically complete mains input.
Driver rated output W	Capacity under its specified conditions, not necessarily the actual operating input.
Complete luminaire input W	The declared basis used in the connected-input arithmetic for that exact type.
Replacement driver or spare source	A physical item to procure; avoid counting its watts again if already included in the complete fixture input.

The named HLG-60H document includes input/temperature-dependent operating and derating conditions. Its model name alone does not establish full output in every enclosure or ambient condition. Numerical thermal limits and breaker counts are not transferred here. [T05]

Close the input boundary

If fixture input already includes its driver, count that complete input once. A separately bought driver does not become an additional connected load merely because it appears on another commercial line.

A dimmable label does not identify the controller that will work



Protocol, wiring, dimming range and tested pairing must agree

A dimmable label does not establish compatibility with every dimmer

Match the actual light/driver and controller interface and their required operating behavior. The drawing does not assign compatibility from a protocol name alone.

Lutron’s named Maestro FAQ recommends lamp/dimmer combinations it has tested and directs users to its compatibility tool. Its stated C·L family limitation for transformer-based low-voltage LEDs is a product-family limitation, not a statement about every Lutron control. [T06]

Control record	What to resolve
Exact combination	Fixture/lamp, driver, controller/dimmer and every relevant variant.
Interface	Phase-cut or the specified analog/digital/proprietary signal; do not equate names casually.
Operation	Required low end, switch-off, start/restart, scenes and grouping.
Evidence and sample	The actual compatibility record and representative observed behavior.

The HLG-60H B/AB variants describe particular dimming signal methods; that does not establish operation with a generic phase-cut wall dimmer. Select the documented complete combination rather than joining two independently dimmable labels. [T05]

Resolve the mismatch

If the offered driver interface differs from the specified control, change to a supported pairing and renew the specification. A decorative faceplate cannot supply a missing electrical-control function.

Fixed white, dim-to-warm and tunable white are different functions

Function	Behavior sought	Procurement consequence
Fixed white with intensity dimming	Change output while retaining the selected white-light behavior.	Specify actual dimming performance and the chosen source/driver/control.
Dim-to-warm	Color becomes warmer as output is reduced.	Confirm the linked intensity/color behavior rather than expecting independent adjustment.
Tunable white	Select white-light color and intensity through the actual supported system.	Confirm range, control channels/interface, scenes and observed behavior throughout the required settings.

DOE’s public color-tunable overview distinguishes these control functions and potential issues. Its examples are explanatory, not universal protocol capabilities or a health-performance guarantee. This guide adopts no therapeutic, circadian or medical claim. [T08]

Resolved hotel-room choice

If a guest must dim a reading scene without changing its white appearance, a linked dim-to-warm function may conflict with that brief. Select the supported behavior or revise the brief explicitly. An app icon or a broad smart-light label is not a functional acceptance test.

Preserve the scene basis

Record actual scenes, controllers, settings and sample observations. A later driver or control replacement can change the behavior even if the luminaire housing remains the same.

Define the destination variant before matching the faceplate

Define the destination's actual electrical variant and required evidence before selecting a decorative series. Socket/contact format, voltage/current rating, grounding, switching function and mounting arrangement are separate decisions. The named comparison on the following page shows why one similar-looking product cannot stand in for another.

Specification field	Decision
Destination and actual supply	Identify the local product requirements and selected electrical variant.
Socket / plug / lamp interface	Exact format, rating and grounding/contact arrangement.
Switch function	Actual circuit/control function, gangs, mechanism and local drawing convention.
Back box and faceplate	Actual depth, fixing dimensions, frame/module compatibility and finish.
Smart / USB / powered module	Actual input, control/network functions, service and destination evidence.

The George Light 1 Gang 1 Way catalog titles identify readable switch entries, not dimming electronics or a complete local circuit function. Obtain the exact product and destination documents for the selected item. [G03]

Resolve the appearance-led substitution

If the matching finish is available only in a different mechanism, socket format or market variant, hold that substitution or select another coordinated series. Color matching cannot override electrical compatibility.

Compare the mechanism, cover and market variant as one package

Named manufacturer example	Published identity	Selection consequence
Leviton T5325 [T07]	15 A, 125 V AC, NEMA 5-15R; grounding duplex receptacle.	Match the actual destination supply, contact format and required evidence.
Simon 7500422-039 [T09]	British socket outlet with switch; 13 A, 250 V~; Simon 75 mechanism with named compatible series.	Match the selected mechanism, exact compatible cover/plate and actual mounting documents.

Simon’s page lists compatible Simon 82 families and related covers, including 8200046-093. That is a component-selection route, not permission to combine every similar cover or box. The linked datasheet/cover bodies were unavailable; this volume therefore assigns no mounting dimensions or complete certification from those links. [T09]

Resolved destination conflict

If the project specifies a British-format 250 V-rated switched outlet, the 125 V NEMA example is not an equivalent substitution because its finish matches. Select the specified supported family/variant or keep the offer on hold. These are product examples, not blanket country rules or installation approval.

Close the device package

List the actual mechanism, cover/faceplate, required frame and mounting-box references and identify what the supplier includes. Match the exact product drawings to the wall/box. Define Each as the complete device assembly or its separately ordered component: a duplex receptacle has two socket faces but is not automatically two physical devices.

Switch function remains separate

An on/off mechanism, a phase-cut dimmer and a controller for a driver interface are different functions. A gang count or matching faceplate cannot replace the selected mechanism and compatibility record.

IP, wet-location suitability and safety certification are separate records

UL’s outdoor-lighting overview separates wet-location/safety evaluation from additional ingress-protection evaluation for dust and moisture. An IP designation addresses its stated enclosure/ingress scope; it is not a complete electrical-safety approval or a guarantee for every mounting, cable entry or assembled system. [T04]

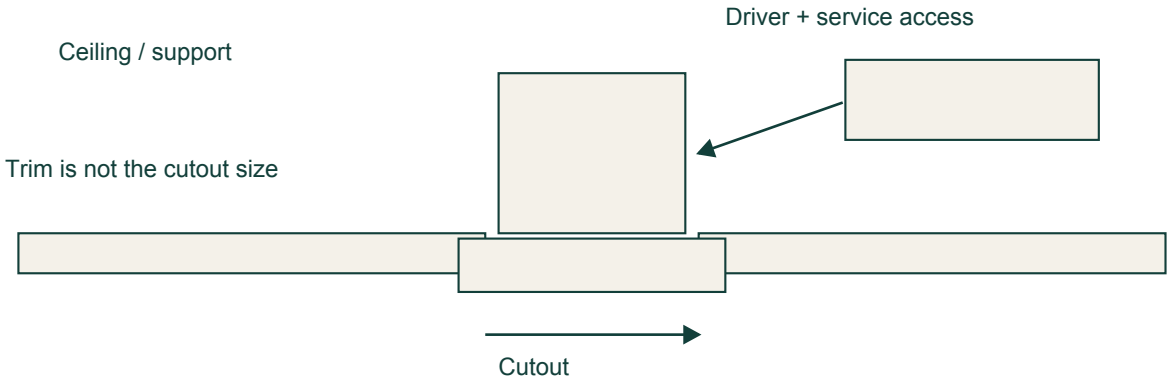
Record	What it establishes or leaves open
Actual location/use	Indoor, outdoor, moisture exposure, mounting and environmental conditions must suit the selected product.
Ingress evidence	Exact tested enclosure/configuration, rating and installation conditions.
Safety evidence	The required product/category/market scope and matching identity.
Installed interfaces	Cable entries, seals, support, service access and any changed assembly still need actual review.

UL distinguishes complete listed end products from recognized components evaluated for use inside products under conditions of acceptability. A driver’s component status cannot be expanded into certification of the whole luminaire. Use the actual product/variant record; no UL status is asserted for NOVARMIA or a group photograph. [T03]

Resolve the evidence gap

If the selected destination/location requires evidence that the offered configuration does not have, obtain a supported variant or retain a hold. A component logo or an unrelated model report does not close the gap.

Coordinate the opening, body, support and service route



Dimensionless relationship between fixture body, finished ceiling opening and driver/service access. The drawing specifies no cutout size, clearance, thermal rating or support capacity.

Interface	Selection consequence
Recessed fixture	Actual finished opening, body/depth, fixing method and relevant ceiling/insulation conditions.
Pendant / chandelier	Actual canopy, suspension/drop, mass/support detail and transport/assembly route.
Wall / mirror / cabinetry	Actual backing, projection, driver/connection access and adjacent finish coordination.
Driver / controls	The permitted environment, support and practical replacement access.

Resolved depth conflict

If the selected body or driver/service arrangement does not fit the documented ceiling space, change the fixture/detail or revise the coordinated construction. Hiding the driver in an inaccessible finished cavity does not resolve serviceability. Use the selected manufacturer’s instructions rather than an invented universal clearance.

Recheck a late revision

A new optic, driver or mounting kit can change body dimensions and operating conditions. Renew the affected interface record before ceiling cutouts or finished work proceed.

Use a representative sample to test the selected behavior

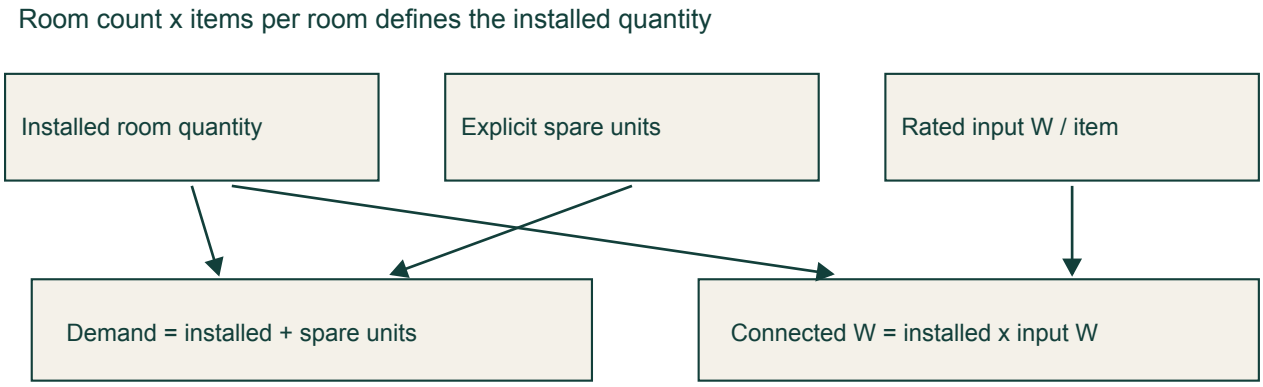
Observation	Record the actual condition
Appearance / scale	Fixture, finish, dimensions, mounting and the reference room/position.
Light / color	Actual source/optic, surfaces, viewing position and required settings.
Dimming / scenes	Exact combination, low-end behavior, switch-off/restart and grouping.
Operation / service	Actual switches, controls, lamp/driver replacement and accessible components.
Decision	Accepted setting/variant or remaining change, reviewer/date and supporting record.

A mock-up can reveal a visible or operating problem in the tested combination. It does not replace photometric design, certification, thermal evaluation or the project's electrical acceptance. Keep what was actually observed separate from what the sample could not test.

Resolve conflicting observations

If the requested low level flickers or starts inconsistently in the actual sample, review the complete pairing and settings. Do not solve the record by retaining the same generic dimmable label. Renew the model/variant decision after the supported change.

Separate installed count, explicit spares and connected input watts



Room count times installed items per room gives installed quantity; explicit total spares increase procurement demand only. Declared connected input watts use installed quantity, not the spare-inclusive count.

All following quantities and powers are teaching assumptions, not GEORGE supply parameters or an approved lighting layout. Assume one confirmed room type with 24 rooms. Downlight DL-A has four installed per room, four explicit total spare pieces and a complete fixture input of 12 W, including its driver.

DL-A calculation	Result
Installed quantity = 24 × 4	96 fixtures
Procurement demand = 96 + 4	100 fixtures
Declared connected input = 96 × 12	1,152 W
Spares included in installed power?	No; they are procured but not installed in this basis.

Input boundary

The driver is already included in the assumed 12 W fixture input. Counting its output rating or a second driver input line again would double count the same powered assembly.

Add a second fixture type without adding spare watts

Assumed type	Installed quantity	Procurement demand	Declared input
DL-A: 4/room; 4 total spares; 12 W	24 × 4 = 96	96 + 4 = 100	96 × 12 = 1,152 W
RL-B: 2/room; 2 total spares; 6 W	24 × 2 = 48	48 + 2 = 50	48 × 6 = 288 W
These two complete-input types	144	150	1,440 W

The total is a manual summary of those two declared complete-input types. It is not a circuit schedule, diversity calculation, current calculation, energy-use forecast or evidence that the rooms have enough light. The workbook summarizes by item type; the project’s electrical design remains separate.

Count-only items

Assume SW-C is a separately defined switch/faceplate item: 24 rooms × 3 per room = 72 installed; add three total spares for 75 procurement pieces. Record Count only and literal N/A for watts. The excluded power is not an assertion that a powered smart/USB device consumes zero; its actual electrical design remains separately defined.

Do not sum unlike performance quantities

Fixture count, switch count and watts describe different things. Keep actual item identities and electrical boundaries when preparing the order.

A room-count change revises demand without rewriting the PO

Continue the assumed case. The confirmed room count changes from 24 to 25 while the same item rates, total spares and input powers remain.

Type	Revised installed / demand	Revised declared input	Compared with old demand
DL-A	25 × 4 = 100; + 4 = 104	100 × 12 = 1,200 W	4 additional procurement pieces
RL-B	25 × 2 = 50; + 2 = 52	50 × 6 = 300 W	2 additional procurement pieces
Two fixture types	150 installed; 156 demand	1,500 W	6 additional pieces
SW-C count only	25 × 3 = 75; + 3 = 78	Excluded; N/A	3 additional pieces

The initial PO for 100 DL-A and 50 RL-B does not automatically become 104 and 52. Using all originally procured fixtures for the new installed layout would leave none of the intended six fixture spares. Review the current demand and issue the actual commercial revision if required.

Preserve both bases

Update the room basis revision and linked demand rows, retain the superseded count source and record the actual order decision. A calculation is not a supplier’s accepted PO amendment.

Compare the complete fixture and wiring-device scope

Scope line	Common basis for comparison
Fixture / source	Exact type, optical/electrical variant, finish, dimensions and included lamps/LEDs.
Driver / control	Exact included components, supported pairing, dimming behavior and accessories.
Mounting and service	Canopies, suspensions, brackets, track/linear connectors, access and replacement parts.
Wiring devices	Actual market variant, mechanism, frame/plate, box and control function.
Documents and sample	Required evidence, product/mounting data, photometry and actual sample/review scope.
Commercial and physical scope	Item quantities, packaging, delivery, installation and responsibility/exclusions.

A pendant price excluding lamps, suspension or drivers cannot be compared directly with a complete included assembly. A control faceplate price is not the price of a supported dimming system. Align the component and acceptance scope before comparing totals; this guide supplies no invented prices, lead times or savings.

Release the current selection

Confirm type/revision, destination variant, input basis, driver/control/lamp references, mounting detail and required evidence. A commercial acknowledgment, catalog description or sample photograph does not itself close every design or installation decision.

Count acceptable physical items and preserve their identities

Teaching order	Physical events	Correct result
100 DL-A fixtures	60 received/59 accepted; then 40 received/40 accepted.	100 received; 99 accepted; 1 acceptable fixture outstanding.
50 RL-B fixtures	50 received/50 accepted.	50 received and accepted.
75 SW-C items	75 received/74 accepted.	75 received; 74 accepted; 1 acceptable item outstanding.

An acceptable replacement DL-A gives 101 gross received and 100 accepted, while preserving the original damage record. A replacement SW-C closes its own type/order line. Do not receive watts, substitute a different market variant to close a count, or count a missing required driver as a complete accepted fixture.

The agreed physical unit must be explicit: complete fixture, separate shade, lamp, driver or defined accessory. When parts arrive separately, retain the actual linked packing/inspection records rather than calling every box one completed fixture.

Installation remains a separate record

Receipt counts do not prove electrical safety, control compatibility, installed illumination or completed commissioning. Handover the actual product, replacement and care documents and retain the real installation/operating checks.

Item Schedule: define the current type and input-count boundary

The companion XLSX has three worksheets and six work areas, with 50 records per work area. It records item/room references, calculates installed/procurement quantities and declared input by type, and reconciles physical Each receipts.

Work area / header row	Actual function
Item Schedule / 7	Item Type ID, description/category, manufacturer/model, market variant, specification revision, Power basis, rated mains input or N/A, input/count basis and evidence references; linked installed/procurement/input totals.
Item Schedule / 67	Item Type ID/revision, Driver / control, socket/lamp and wiring/drawing references; human review decision, reviewer/date and record reference.

Use Connected input only where the declared complete input basis is available and counted once. Use Count only with literal N/A where that item’s power is excluded from this arithmetic. Exclusion is not proof of zero power or permission to omit it from electrical design.

Manual evidence decisions

Recorded and Hold describe entered human reviews. The workbook does not validate photometric reports, certification, drivers, dimmers, lamp bases, sockets or installation.

Room Demand: current room counts, item rates and total spares

Work area / header row	Actual function
Room Demand / 7	Room Type ID, description, confirmed count, source/basis revision and reviewer/date.
Room Demand / 67	Demand ID, room/current basis, Item Type ID/current item revision, quantity per room, Explicit spare pieces and Rate of fit / scope reference and reviewer records; installed/procurement quantities and declared input W.

Enter the 24-room teaching rows: DL-A rate 4/spares 4 gives 96 installed, 100 procurement and 1,152 W at 12 W input. RL-B rate 2/spares 2 gives 48/50 and 288 W at 6 W. SW-C rate 3/spares 3 gives 72/75 and excluded input.

Spare pieces are a total for that demand row, not a per-room addition. One current room-type/item-type pair is allowed. Define a different item type for a different electrical/optical configuration; do not duplicate a pair to disguise different variants or double count demand.

Recheck the revised basis

When the room count becomes 25, the two fixture types give 150 installed, 156 procurement and 1,500 W in this manual summary. The workbook does not automatically amend actual orders or design circuits.

Receipt: actual Each orders stay separate from computed demand

Work area / header row	Actual function
Receipt / 7	Unique Order line ID, Item Type ID/current revision, Item / scope reference and Purchase order reference, ordered Each count and final-delivery declaration; linked received/accepted/outstanding totals.
Receipt / 67	Unique event ID, order-line/current revision, date, received/accepted counts, damage/exclusion or None, inspection reference and reviewer/date.

Enter actual PO quantities rather than assuming that procurement demand has already been purchased. Use the DL-A, RL-B and SW-C receipt examples as separate identified lines. The recorded physical unit is Each, not watts or an implied pack count.

Append actual arrivals once. Final delivery does not turn damage or incomplete assemblies into acceptance. Link replacements/returns to real documents without overwriting earlier events; this file is not a full payment, return or commissioning system.

Capacity and operating boundary

Each work area has 50 input rows; extensions need formula/validation/link review. There is no automatic supplier, CAD, control-network, PO or website synchronization. Native Microsoft Excel has not been tested for this release; available-engine checks are recorded separately.

Working glossary

Term	Meaning in this volume
Lumens / illuminance	Emitted light quantity / light incident on a defined surface, expressed in lux.
Distribution / optic	How the actual assembled source directs light; used with geometry and project design.
CCT / color rendering	White-light appearance descriptor / how the selected light affects object colors; neither alone defines all visual quality.
Mains input / driver output	Different electrical boundaries; capacity and actual declared operating input are not interchangeable.
Dim-to-warm / tunable white	Linked intensity/color behavior / selected white-color and intensity control through the actual system.
Listed product / recognized component	Different evidence scopes; the actual certification/category record controls.
Installed / procurement demand	Rooms × items per room / installed quantity plus explicit total spares.
Count only / N/A	Power excluded from this quantity arithmetic, not a declaration of zero consumption.
Each receipt	The agreed physical item or complete assembly, separate from demand and watts.

Sources and scope notes

[G01] GEORGE INT'L - Lighting Solutions for Luxury Homes

https://georgeintl.com/lighting/

Decorative, architectural, outdoor, reading/mirror and switch/socket routes. No selected-model rating, photometry, control compatibility or certification established.

[G02] George Light - Chandelier Catalog

https://georgelight.com/product-category/chandelier/

Readable named catalog entries. Individual model bodies unavailable; prices/result totals not used as quotations, inventory or product specifications.

[G03] George Light - Product Catalog

https://georgelight.com/product/

Readable switch sourcing entries. No electrical rating, dimming capability or destination acceptance inferred; listed prices not adopted.

[G04] George Group Foshan - George Group Foshan Official Showroom

https://georgegroupfoshan.com/george-group-foshan/

Official lighting display context. Not a completed project, exact electrical configuration, photometric result or certificate.

[T01] U.S. Department of Energy - LED Basics

https://www.energy.gov/cmei/ssl/led-basics

CCT/color-rendering distinctions and metric limits. General explanatory body; historical efficacy, CRI recommendations and lifetime figures not assigned to products.

[T02] International Commission on Illumination - e-ILV 17-21-060: Illuminance

https://cie.co.at/eilvterm/17-21-060

Incident light per surface area; lux unit. Term read, not the full purchased standard or a project lighting/design requirement.

[T03] UL Solutions - Lighting Standards and Certification

https://www.ul.com/industries/lighting

Complete-product versus component evaluation scope. Full standards not read; no NOVARMIA/GEORGE certification or automatic assembly acceptance asserted.

[T04] UL Solutions - Landscape and Outdoor Luminaire Lighting

https://www.ul.com/services/landscape-and-outdoor-lighting

Separate safety/location and IP dust/moisture evaluation. No universal IP/location default, test threshold or installed electrical approval adopted.

[T05] MEAN WELL - HLG-60H Series Specification

https://www.meanwell.com/Upload/PDF/HLG-60H/HLG-60H-SPEC.PDF

Named driver demonstrates distinct electrical boundaries and variant-dependent functions. Relevant sections read, not every graph. No circuit/breaker count, thermal default, system input or full-luminaire certification transferred.

[T06] Lutron - Maestro MSCL-OP153M LED Compatibility FAQ

https://support.lutron.com/us/en/product/maestro/component/sensors/dimmer/mscl-op153m/faqs/led-compatibility

Exact lamp/dimmer combination and family-specific scope. No universal Lutron compatibility or claim that every dimmable LED works with every dimmer.

[T07] Leviton - T5325 Decora Tamper-Resistant Duplex Receptacle

https://leviton.com/products/t5325

Named receptacle/market-variant example. No worldwide socket default, circuit design, installation or unrelated product certification inferred.

[T08] U.S. Department of Energy - Understanding LED Color-Tunable Products

https://www.energy.gov/cmei/ssl/understanding-led-color-tunable-products

Distinct linked color/intensity and tunable-white functions. No universal protocol/algorithm, color range, medical/circadian claim or GEORGE capability transferred.

[T09] Simon Electric - British Socket Outlet with Switch, Reference 7500422-039

https://www.simonelectric.com/en-ww/7500422-039-british-socket-outlet-13a-250v-with-switch-and-screw-terminal-connection-system

Named 13 A, 250 V British-format switched socket and compatible-series route. Linked datasheet/cover bodies unavailable; no mounting dimensions, wiring method or full certification inferred.

Photo credits and illustration scope

Cover: George Group Foshan official lighting-display image from its showroom page. The authorized collection records proportional WebP conversion without content edits; this task copied it unchanged and verified its hash. The photograph was viewed and its original overlays preserved. [G04]

The display establishes a lighting showroom scene, not an exact model, current inventory, approved color sample, photometric performance or electrical certification. No customer completion or tested energy saving is inferred.

Five original diagrams explain distribution, electrical boundaries, control pairing, service access and quantity/power accounting. They are dimensionless procurement illustrations with explicit teaching assumptions where used, not wiring diagrams, photometric calculations or approved electrical designs.